CHICAGO CRIME ANALYSIS DASHBOARD

Using a **MARTINI GLASS HYBRID STRUCTURE** and following the path of Author-Driven Insights to Reader-Driven Exploration of Chicago's Crime Trends and Arrest Rates for Domestic vs. Non-Domestic Incidents.

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1.DATA SOURCES, DASHBOARD, AND RESOURCES

- **Narrative Visualization is hosted in git public repository here**

Dataset: The data reflects reported incidents of crime that have occurred in the City of Chicago over the past year. Data is extracted from the Chicago Police Department's CLEAR (Citizen Law Enforcement Analysis and Reporting) system.

- Data is obtained from data.gov site here
- Additional processing and summarization conducted for visualization. Processed dataset is located here
- Additional details about the dataset can be obtained here

2.MESSASING:

What is the message you are trying to communicate with the narrative visualization?

The message I'm conveying with the narrative visualization is that

- Chicago crime trends are on the rise in 2024 for both domestic and non-domestic incidents. *(illustrated through guided charts showing the trend of each crime type)*
- Despite non-domestic crimes being four times more frequent compared to domestic crimes, the **arrest percentage is higher for domestic crimes**. *(illustrated through interactive comparative chart of arrest %, highlighting the significant disparity in arrest rates and details of demand using tooltips)*

3.NARRATIVE STRUCTURE

Which structure was your narrative visualization designed to follow?

- Martini Glass Hybrid Structure is used.

How does your narrative visualization follow that structure?

Initial data analysis ***revealed intriguing patterns in crime incidents by nature*** (Domestic vs. Non-Domestic) and their corresponding arrest rates.

I aim to share these insights with readers using a streamlined, author-led approach through message-focused, non-interactive scenes (Scenes 1 & 2).

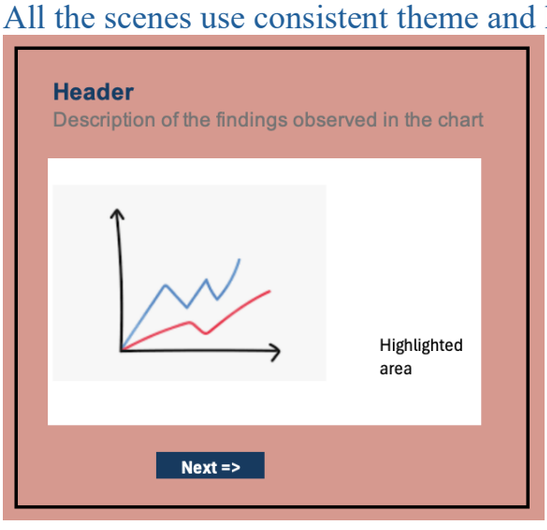
Subsequently, an interactive scene (Scene 3) which will enable users to explore these observations further.

Also, considering the volume of data might be too big to present it to users directly, Martini glass structure is used.

3.VISUAL STRUCTURE

What visual structure is used for each scene?

All the scenes use consistent theme and layout and follow the below template



How does it ensure the viewer can understand the data and navigate the scene?

To ensure viewers can understand the data and navigate the scene, the following elements are incorporated:

- A **header** provides a brief overview to help the reader grasp the chart's findings.
- A **text description** below the chart offers a detailed explanation of the data.
- Each slide is navigable **using right arrow buttons for ease of progression.**
- The navigation through the interactive narratives is uni-directional, leading to the last page, where there is an option to restart from the Home page.

How does it highlight to urge the viewer to focus on the important parts of the data in each scene?

The scene is designed to draw the viewer's attention to the chart as the focal point. This is achieved through two main strategies:

1. The chart is set against a white background, which contrasts with the darker background of the scene.
2. The chart is centrally aligned and occupies the maximum available space on the page, ensuring it stands out prominently.

How does it help the viewer transition to other scenes, to understand how the data connects to the data in other scenes?

- Scene 1 captures incidents for Non-Domestic crimes independently.
- Scene 2 captures the same metrics for Domestic crimes.
- Scene 3 captures the Arrest% of Domestic and Non-Domestic crimes.
- Using tooltips, the data from the other scenes are connected and brought together to establish connectivity of the information.

Sample tooltip shown below with information from all the scenes connected to each other.

4.SCENES

What are the scenes of your narrative visualization?

- ***Five Webpages***

No.	Page Name	Page Description
1	*Introduction*	*Introduction page to establish the context of the Interactive webpage.*
2	*About the visualization*	*provides the design choices made for the Interactive visualization.*
3	Scene 1	Non-Domestic Crime Trends
4	Scene 2	Domestic Crime Trends
5	Scene 3	Arrest rates by Domestic & Non-Domestic crimes

- ***Three scenes***

Scene 1	Non-Domestic Crime Trends	Non-Interactive

Scene 2	Domestic Crime Trends	Non-Interactive
Scene 3	Arrest rates by Domestic & Non-Domestic crimes	Interactive

How are the scenes ordered, and why?

It is ordered to follow Martini glass hybrid structure and the *jump off point is after the scene 2*.

- Scenes are ordered to show the highest contributor in scene 1, non-domestic crimes trends for the last year averaging to 18k for the given dataset for the last year.
- Followed, by Domestic crimes trends that average to 4k (Scene 2).
- Scene 3 is interactive that shows the arrest % trends by Domestic or Non-domestic chart. *(Free-form user interaction through tooltip popups & radio button selection)*

5.ANNOTATIONS

What template was followed for the annotations, and why that template?

How are the annotations used to support the messaging?

Do the annotations change within a single scene, and if so, how and why

6.PARAMETERS

What are the parameters of the narrative visualization?

- hose three scenes can simply highlight different details or different data from the same chart.

What are the states of the narrative visualization?

How are the parameters used to define the state and each scene?

7.TRIGGERS

What are the triggers that connect user actions to changes of state in the narrative visualization?
What affordances are provided to the user to communicate to them what options are available to them in the narrative visualization?

8.REFERENCES